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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,921	08/04/2003	Serge Dube	12708-25us PAN/df	3795

20988 7590 05/14/2004
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EXAMINER

JIANG, CHEN WEN

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 05/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/632,921	DUBE, SERGE	
	Examiner	Art Unit	
	Chen-Wen Jiang	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (U.S. Patent Number 6,449,968) in view of Alsenz (U.S. Patent Number 5,694,782).

In regard to claims 1,2,4,5 and 8, Singh et al. disclose a method and apparatus for refrigeration system control having evaporator pressure regulators. Referring to Fig. 1, the apparatus comprises compressors 12, condenser 20, refrigeration cases 22 and pressure regulator 28. Each refrigeration case 22 includes its own evaporator and its own expansion valve. The defrost control is based on the pressure or temperature measurement. The refrigeration controller 30 controls the bank of compressor 12 and pressure regulator board 42. Fig.2 shows a defrost termination measurement via a defrost termination sensor 52. However, Singh et al. do not disclose the valve located at the upstream of the evaporator and using independent air defrosts. Alsenz discloses control valve located at the upstream of the evaporator and using air defrost in the same field of endeavor for the purpose of control refrigerant flow and providing defrost method. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Singh et al. with the valve located at the upstream of the evaporator and using air defrost in view of Alsenz to perform defrost function.

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In regard to claim 3 and 7, the arrangement of the evaporators is design choice based on the structure arrangement and space constrains.

3. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admission in view of Egbert (U.S. Patent Number 5,987,916).

In regard to claims 1,2,4,5,6 and 8, applicant admits prior art defrost system involves the convective defrosting of the evaporators. In convective defrosting, hot air is blown onto the evaporator to melt the frost during defrost period. The supply of refrigerant is stopped during defrost period. In order to do so, a valve is provided upstream of the evaporator to cut the refrigerant supply. Defrost systems of refrigeration systems of supermarkets or large food outlets are often fully automated. The valves that are upstream of the evaporators are all wired to a central controller that synchronizes the defrost period of the evaporators with the actuation of a heating coil that will warm up the air blown onto the evaporator in defrost mode. Refrigeration systems with convective defrost systems presently have independent control for each evaporator. This allows the evaporators to each be defrosted individually, for instance while other evaporators are in a normal refrigerating mode. However, applicant does not disclose the existence of one valve upstream at least two evaporators. Egbert discloses one valve 30-A,30-B for each group of evaporators in the same field of endeavor for the purpose of control refrigerant flow. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of applicant's admission with a valve with at least two evaporators in view of Egbert to have one valve control multiple evaporators.

In regard to claim 3 and 7, the arrangement of the evaporators is design choice based on the structure arrangement and space constrains.

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4. Claims 1,2,4,5,6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egbert (U.S. Patent Number 5,987,916) in view of Applicant's admission.

Egbert discloses a system for supermarket refrigeration having defrost function.

Referring to Fig.7, the system comprises multiple group of evaporators 42, flow control 30 located at the upstream of the evaporator, compressor 20, condensers 66,68 and hot gas defrost circuit. However, Egbert does not disclose air defrost method. Applicant admits the air defrost and control are known prior art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Egbert with a air defrost in view of applicant's admission.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 10/778,142. Although the conflicting claims are not identical, they are not patentably distinct from each other because both inventions comprise evaporator groups, control valve upstream of the evaporator, defrost function and evaporator arrangements.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chen-Wen Jiang whose telephone number is (703) 308-0275.

The examiner can normally be reached on Tuesday-Friday from 7:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (703) 308-2597. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chen-Wen Jiang
Primary Examiner

A handwritten signature in black ink, appearing to be 'C. W. Jiang', written in a cursive style.